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HORACE MANN—HIS EARLY EDUCATION.

HORACE MANN was born in the town of Franklin, Mass., May 4, 1796. His father, Mr. Thomas Mann, died when he was thirteen years of age, leaving him little besides the example of an upright life, virtuous inculcations, and hereditary thirst for knowledge.

Mr. Mann's early education was in a common district-school. It happened that he lived in a district which was the smallest, had the poorest school-house, and employed the cheapest teachers, in a town which was itself both small and poor. After his father's death he remained seven years with his mother upon the old homestead. His irrepressible yearning for knowledge, however, never forsook him. "I know not how it was," he said to a friend in after-life; "its motive never took the form of wealth or fame. It was rather an instinct which impelled toward knowledge, as migratory birds are impelled northward in spring-time. All my boyish castles in the air had reference to doing something for the benefit of mankind: and I had a conviction that knowledge was my needed instrument."

A fortunate accident gave opportunity and development to this passion. An itinerant schoolmaster, named Samuel Barrett, came into his neighborhood and opened a school. This man was eccentric and abnormal both in appetites and faculties. He would teach a school for six months, tasting nothing stronger than tea; and then, for another six months, he would wander about the country in a state of beastly drunkenness, begging, from house to house, cider, or any thing which would intoxicate. He would sleep in barns and styes; then the paroxysm would pass, and he would be found clothed, and in his right mind, and would obtain another school.

Mr. Barrett's specialty was English grammar, Latin, and Greek. In the dead languages, as far as he pretended to know any thing, he seemed to know every thing. All his knowledge was committed to memory. In hearing recitations from Virgil, Cicero, the Greek Testament, and other classical works, then usually studied as a preparation for college, he never took a book in his hand. Not the sentiments only, but the sentences, in the transposed order of their words, were as familiar to him as his A, B, C, and as soon would he have omitted a letter of the alphabet, as an article or particle of the lesson. Beyond the languages he knew nothing. In arithmetic he was a dunce. He never could commit the multiplication table; he was unable to date his letters, and could not tell the hour by the clock.

In this chance school Mr. Mann first saw a Latin grammar; but it was the *veni vidi vici* of Cæsar. He obtained a reluctant consent from his guardian to prepare for college. In six months he learned his grammar, read Corderius, Æsop's Fables, the Æneid, with parts of the Georgics and Bucolics, Cicero's Select Orations, the four Gospels, and part of the Epistles in Greek, part of the Græca Majora and Minora, and entered the Sophomore class of Brown University in September, 1816.

Illness compelled him to leave his class for a short period. And again he was absent in the winter to keep school, as a resource for paying college bills. Yet, when his class was graduated in 1819, the first part, or "Honor," in the commencement exercises, was awarded to him, with

the unanimous approval of Faculty and classmates. The theme of his oration—"the Progressive Character of the Human Race"—foreshadowed the history of his life. With youthful enthusiasm he portrayed that higher condition of human society when education shall develop the people into loftier proportions of wisdom and virtue; when philanthropy shall succor the wants and relieve the woes of the race, and when free institutions shall abolish that oppression and war which have hitherto debarred nations from ascending realms of grandeur and happiness.

With the aid of Hon. Henry Barnard have we thus briefly sketched the history of Mr. Mann through his early education. Hereafter we shall speak of him as a teacher, a lawyer, a law-maker, as the first Secretary of the Board of Education of the State of Massachusetts, and as President of Antioch College. We shall also present some interesting paragraphs from his letters and educational documents.

No man has done more to promote popular education in this country than Horace Mann; hence we think that no device can be more suggestive and appropriate for the title-page of an *American Educational Monthly* than the vignette of this great man.

ADVENTURES AND MISFORTUNES OF A SAXON SCHOOL-MASTER.

III.

MASTER SPURDZER'S grief increased daily; nothing could console him—neither the luxury and comfort of his present life, nor the unalterable friendship of the elector. He felt sad and isolated amidst the crowds of nobles and valets which surrounded him. Indeed no one sympathized with him, no one gave him the name of husband and father, which he so much loved to hear. He felt the want of two things which can not be replaced—liberty and home. Poor Spurdzer! All was luxury, no simplicity. Strangers were here, but his sons were absent. O liberty! inestimable treasure, dearer than aught else save virtue, what a void thy absence has effected in a heart so long devoted to study and the endearments of home! Where thou art not, no happiness is possible; duty becomes a heavy yoke, pleasure a fatigue.

Spurdzer was like the drowning man who grasps the surrounding water, and yet finds no point of support. In the same way had the preceptor sought an element of happiness—a friend—contentedness.

His pupils had neither regard nor gratitude for him. He taught without pleasure, and they learned with disgust.

This position was intolerable, and while many envied Spurdzer's fate, he was devising some means to escape from his position. This was not an easy task, and two months, two long months, elapsed without offering a favorable opportunity.

At length came the elector's festival day. The report of the morning salute gave the signal, and joy was manifested throughout the entire city; flags with inscriptions waved from the windows, and garlands of flowers adorned the portals. The people in their Sunday clothes crowded the streets and sung national hymns amid the loud acclamations of rejoicement. At the approach of night all the public monuments were illuminated, the royal park was open to the multitude, which densely thronged its numerous walks. At nine o'clock at night there was a grand display of fireworks, near a pond, and they flamed upward through the sky as so many sheaves of fire. The court pleasures succeeded those of the people, and scarcely had the last skyrocket flashed through the darkness, when a ball opened at the palace. Sebaltus awaited this moment with the impatience of a child who longs for the first day of his vacation. He feigned a headache to remain in his apartment; there he drew from a closet the simple dress he wore before entering the palace. With what delight he doffed his embroidered coat. It seemed to him as if heavy chains had fallen from his arms,

and that the dreadful weight oppressing him had suddenly been removed.

"I am myself, at last!" exclaimed he, as he walked to and fro; "I am once more free, and once more I assume the dignity of a man! Enough of this life of etiquette, of this perpetual constraint. I shall seek those whom I love and who love me. Liberty forever! No longer shall I endure the trickeries of those two scapegraces of princes, who take the greatest pleasure in tormenting and disobeying me. Liberty forever!"

And the brave fellow was so elated with the hope of freedom, that he hardly knew what he was doing.

The palace clock struck ten, and Sebaltus listened with a fluttering heart.

"This is the moment or never!" murmured he. Then leaving upon the table a letter of excuse, addressed to the elector, he put out the lights, stole out, and descending a private staircase entered the park, whence he easily effected an escape. He passed through the city of Dresden, the gates of which had been left open for that night, and he breathed freely when he again inhaled the fresh air of the country. His tramp was long, and accomplished without a moment's halt. The thoughts in which Master Sebaltus was absorbed were too intense to allow feelings of exhaustion.

It is in such circumstances that the body is a slave to the mind.

A cry escaped the scholar's breast when he saw the steeple of Lauterbruck rising above the horizon, and tears flowed from the eyes of the poor pedagogue.

"Dear steeple, my life, my souvenirs, here I find what I had abandoned!—My God, be praised—but give me strength, for emotions overwhelm me—my happiness was too great at the sight of that steeple."

Spurdzer leaned against a tree and breathed. His fixed gaze penetrated the expanse to discover other well-known objects.

Quarter of an hour after, our pilgrim knocked at his own door, extemporizing the while the following lyric composition.

Paternelle maison où grandit mon enfance,
Paysage enchanteur, ami de la science;
Vous tous, O chers témoins du bonheur d'autrefois,
Enfin je vous retrouve! enfin je vous revois!

"What then! is it you, Sebaltus?" exclaimed Thecla. "No, my eyes deceive me—it is not possible."

"Yes, Thecla, it is your poor husband; your husband, for whom honors were a burden; for in return he had to sacrifice his liberty. I can say willingly with the French song:

"Ouvre-moi la porte,
Pour l'amour de Dieu."

Madame Spurdzer had changed successively from all the colors of the palette: white, yellow, red, &c.

While Sebaltus spoke, she could hardly contain herself, and her clenched fists betokened the violence of her indignation. At length the housewife gave vent to the following words:

"Do you dare assign such reasons for your return? What! when our sovereign has sought you in your school, when he has loaded you with favors, this is the value you set upon his goodness! One would not act so to an equal, and with this gross carelessness you treat so generous a prince!—I am dreaming! Now let me build hopes upon such a man, who can not take better advantage of the chances of fortune, and who abandons his post like a deserter abandoning his regiment on the eve of a battle! In truth I'm out of breath. Oh that you had been abed with the fever, when, raving, you formed such fine plans of escape!"

Master Sebaltus was used to these domestic storms, and he remained, in the face of this flow of abusive language, with heroic impassibility. He took advantage, however, of a favorable opportunity, when he judged his wife breathless, if not exhausted, to reply:

"Gently, Thecla, gently. Your zeal carries you too far. Since when does the quail lead the eagle? This comparison may seem to you ambitious—be it so. Nevertheless, a wife should always respect her husband's will. Stand upon reason. How can you be aware of all the grievances I have suffered in that golden prison in which I was incarcerated? Yes, our sovereign is the best of men; but his sor are restless, refractory, imperious being and totally averse to my nature. We can

not recast ourselves; I was not born for the struggle—and life in palaces is one continuous struggle. Assuredly Job alluded to courtiers when he said: '*Vita hominis militia est.*'"*

While Sebaltus spoke, reflection (this great moderator of passion) quelled Thecla's disposition. Submitting herself to the law of necessity, Madame Spurdzer bid her husband enter, and she served him a frugal breakfast, which the good man found delicious. Repeatedly did he praise the excellency of the pork, and the inviting taste of the sour-krout. His wife stood amazed at his wonderful appetite.

"Good God!" said she, "you eat as if you had fasted forty days, like our Lord."

"Because I have not eaten since I left; I was not at home; I lacked the true seasoning of food, which is liberty. I would give all the fine dinners of the prince for this dish which courtiers may disdain, but which I find the best in the world."

To all these philosophic reflections, very true, but also very disinterested, Madame Spurdzer shook her head; she thought that in her husband's place she certainly would have remained at the palace, and she little cared how tasted the village sour-krout.

"And our sons, where are they?" asked Sebaltus.

"Where, more likely, is your memory. Have you forgotten that his highness has had the extreme goodness to place them in the College of Leipsic?"

"True. Excuse me, Thecla; my troubles have bewildered me."

"Ah," resumed the housewife, "since we speak of them, say, do you not fear that they may now be sent back?"

"In that case, I shall finish their education myself."

"But, unhappy man that you are, you are not reflecting what must be the elector's anger. Perhaps he has already given orders for your arrest."

"You make me shudder," said the pedagogue, with a *Germanic* impassibility. "Then for the time being I shall go visit that poetic little spot. I shall be back in an hour. Open the school-room and announce that I am again disposed to receive my former scholars. A little walk to the fountain of the Muses will revive me."

So saying, Sebaltus took his hat, and pu under his arm, as formerly, his volume ot Tacitus, which he had carefully brough back from the palace, and he sauntere slowly toward the borders of the Elbe savoring with delight the breeze, the sun, the verdure, and the scenes known and cherished. When he reached the little green mound, repeating the old saying: "*Felices nimium sua—si bona norint,*"† he started and uttered a cry.

A man was sitting there, and this man was Hanz!

The scholar stood petrified; the face of Medusa, or the approach of a boa-constrictor, would not have caused him more horror. So much so that his precious volume slipped from his hands to the ground. Sebaltus grasped the book, as he threw himself on his knees:

"Pardon, pardon, my sovereign," stam mered he, with a voice smothered with emotion; "can you ever forgive me?"

"I have come expressly for that," said the prince in a tone of exquisite goodness "You have judged me wrongfully, my dea. Sebaltus, if you suppose I condemn your departure. The motives you give in your letter would disarm the hardest of hearts. Retake that liberty you so much cherish; the atmosphere of courts does not agree with your temperament."

"O Heavens!—You deign—You permit—"

"Yes, I permit you to lead your former quiet life. But I shall have an eye to your interests, and your sons shall continue their studies. You must think of their welfare, and I take charge of it. You shed tears—"

"Of emotion, sire. I am not worthy of your favors."

"Should I not make reparation for the levity of the pupils you had in charge—Otho and Frederick are going to France. This change will, I hope, overcome the vivacity and the petulance of their nature. Farewell, my friend, read, at leisure, your favorite authors; ramble in peace and

* Man's life is a struggle.——† Happy, if they knew their happiness.

quietude, and believe that I shall contribute, in some degree, to your happiness."

"O Prince!" exclaimed Spurdzer, as he threw himself again on his knees; "my gratitude will end but with my life, and—"

He raised his head; the elector was already far away. When Sebaltus was assured of the departure of his highness he hurried home and related all to Thecla, who no longer worried about her husband's escape.

That same day, Spurdzer triumphantly ascended his seat, amidst the joyous shouts of his pupils, who were impatient to resume their studies, and he said:

"My children, if I have good memory, we were at Quintius Curtius, where he relates the battle of Arbela."

"That is it! that is it!" chorused the pupils.

"It is surprising," said one of them, "you should remember this lesson so well."

"O Wilhelm," responded Master Sebaltus, "know, that one always remembers the things that they mostly cherish. So listen to me attentively, my friends: *Alexander, ut supra dictum est, inhibito suorum cursu, ad Lycum amnen pervenerat, ubi ingens multitudo.*"*

* "Alexander, as it has above been mentioned, arrived at the borders of the river Lycus, where a great multitude, &c."

PRIMARY INSTRUCTION.

WE need not affirm that a new era is dawning upon us. Educators are beginning to be governed by the principles, simple but philosophical, which intelligent mechanics have practiced upon for centuries—viz., that the strength and durability of the structure depends in a great measure upon the solidity of its foundation.

PRIMARY, as used in connection with instruction, is, being interpreted according to the usual acceptation of the term,—instruction which stands *highest* in importance. In proof of this, it may be stated that some competent primary teachers are receiving from $400 to $700 salary per annum in certain parts of the country. Teachers of fine talents are laboring in the field where their efforts have so long been needed. May those who have put their hands to the plow never look back! The field is broad, and we need many more laborers who are worthy of their hire.

If we fully realize the responsibilities resting upon us who assume the holy office of dealing with the plastic mind, of moulding a character for eternity, we shall with all diligence, and conscientiously, too, seek to become acquainted with the best possible means of developing the threefold nature. *Developing the threefold nature!* This to a reflecting mind opens a field so broad, that if the heart be not stout and brave it will sink almost in despair.

Those under our charge are to be educated, drawn out or developed physically, intellectually, and morally. The ability properly to educate the physical nature implies, of course, some knowledge of the human system. Hence we should study the laws of health. Every teacher should understand and practice these general laws as a religious duty. A sickly, nervous teacher should have no place in the schoolroom. The influence exerted by such a one must prove morally detrimental. Let us take sufficient physical exercise, a proper quantity and quality of food, plenty of sunlight and fresh air, with a due regard to cleanliness and the avoidance of all unhealthful practices, to keep strong, calm, and cheerful. We have teachers who are eminently successful in stimulating and exercising the intellect, who are sadly neglectful of the social and physical wants. Many school rooms designed for *primary* children are so constructed as to render it impossible to give our little ones their rightful allowance of pure oxygen and heaven's free sunlight. This gives evidence of less intelligence than horticulturists manifest in their daily practice. The intellect may expand perhaps *rapidly* for a

time under a mere intellectual pressure. So will the plant sprout and expand wondrously in a dark cellar. It will grow beautifully tall but painfully deficient in strength and natural color. When we consider that it is equally sinful to inflict an injury upon the physical as it is upon the moral nature, more attention would be paid to the observance of the general laws of health. We can not refrain from entreating our co-laborers in the field to carefully guard and tenderly nourish the beautiful casket of the soul. Let the free air and cheerful sunlight flood your rooms. We do not duly estimate the importance of the vivifying rays of the sun. Our schoolrooms, our sleeping apartments, and our private parlors are kept too dark.

Keep the children actively and pleasantly employed. Activity is the law of childhood. Let the exercises be short, however, and varied. "Change is rest."

There is danger, perhaps, more particularly with those teachers who are introducing new methods of instruction of crowding the intellect at the expense of the body and heart. The methods referred to prove exceedingly interesting to the children, and it is possible that the mind may be overstrained. This need not be the case if certain principles are adhered to. No lesson in the primary department should exceed fifteen minutes. Exercises of a different character should succeed each other, gymnastic movements, marching and singing should be introduced as a relief after mental exercises. Frequent recesses should occur.

SOCIAL AND MORAL CULTURE.

It is often remarked that the teacher exerts a more powerful influence over the child than the parent. That such is a fact in some instances is certainly true, and may be accounted for on natural principles. In proportion as a child loves his parent or teacher will he be influenced. Children, like adults, can not love that which is unlovely. The affectional nature is not always cultivated in the family circle. Such being the case, the teacher has a mighty mission to perform. Let him strive to render himself altogether lovely, and endeavor to awaken and exercise that part of the child's nature the development of which must alone render him able to obey the divine command,—"*Love one another.*"

How shall we teach *Christian* virtues if not *objectively*. Surely our Father, who knoweth all our wants and provideth for them, has not permitted us to grope our way in darkness. Has he not given us in the life of Christ an object for our study and imitation? Shall we not strive to be observing students and faithful imitators, so that Christian virtues may be reflected through us, and produce happy results upon those who are induced to follow our example? We must be cheerful, patient, consistent Christians, if we would cultivate like virtues in those intrusted to our care.

THE following neat and beautiful reply was made by Daniel O'Connell, in response to a toast given in compliment to his wife, who was the object of his long and affectionate attachment. It was given at a political meeting. The English language could furnish nothing more touchingly tender and graceful.

"There are some topics of so sacred and sweet a nature that they may be comprehended by those who are happy, but they cannot possibly be described by any human being. All I shall do is, to thank you in the name of her who was the disinterested choice of my youth; who was the ever-cheerful companion of my manly years; and who is the sweetest solace of that 'sear and yellow leaf' age at which I have arrived. In her name I thank you; and this you may readily believe. For experience, I think, will show to us all, that man can not battle and struggle with malignant enemies unless his nest at home is warm and comfortable—unless the honey of human life is commended by a hand that he loves."

SWEET was the song that Youth sang once
And passing sweet was the response;
But there are accents sweeter far,
When Love leaps down our evening star,
Holds back the blighting wings of Time,
Melts with his breath the crusty rime,
And looks into our eyes, and says,
"Come, let us talk of former days."

GYMNASTIC APPARATUS.

II.

III. INDIAN CLUBS.

INDIAN CLUBS, or *Scepters*, as they are sometimes called, are deservedly held in the highest esteem by all gymnasts, affording, as they do, one of the very best and most extended series of exercises for developing the muscular power of the whole body. Nothing can be better calculated to invigorate the respiratory system, expand the chest, call into action the muscles of locomotion and the principal structures around the joints, and enlarge and strengthen the muscles of the forearm, the upper arm, and the shoulder, as well as the abdominal and spinal muscles.

While they secure to a greater extent than any other apparatus the requisite simultaneous activity of the mental and the physical powers, in their beginnings they are accessible to the meanest capacity; since there are scarcely any who, at the first trial, can not execute a number of the elementary movements.

Commencing with light implements and simple exercises, the student, by thoughtful and persistent efforts, will soon learn to handle heavy clubs in alternate, reciprocating, and double movements, tracing in the air the most varied and beautiful devices, in complex curves that seem at first almost inexplicable.

These clubs act like an incantation. You can not touch them, you can not lift them for the simplest exercise, without causing strength to flow into every member of your body as naturally and irresistibly as water into the conduit, when you turn it on to irrigate and enrich the soil. New systems of muscles seem to shoot out from your shoulder-blades, enabling you to do, almost without effort, what you could not dream of doing before. Movements that seemed awkward and hopelessly difficult at first, soon become easy, graceful, and exhilarating.

There are numerous and appropriate exercises both for long clubs and short ones. Four sizes of long clubs, and the same number of short ones, afford a sufficient variety for persons of all ages. The shape of all the clubs is that of Fig. 12.*

FIG. 12.

LONG CLUBS are pleasanter to handle, and more effective, in executing a number of movements, than short ones. They are specially adapted to exercise in gymnasiums, calisthenic halls, large rooms, and the open air, where there is an abundance of space.

SHORT CLUBS are more convenient, and will be found more generally useful than long ones, especially in schools and families. All of the long-club exercises may

* The illustrations used in this series of articles are taken from "WATSON'S HAND-BOOK OF CALISTHENICS AND GYMNASTICS."

easily be executed with short clubs, while many of the short-club exercises will be found quite difficult at first, if executed with long clubs.

The desired weight should not be secured by varying the size, but the material. For ordinary purposes, maple, beech, birch, or any hard wood of about the same density, is preferable. For strong men, or as tests of strength, clubs should be made of iron-wood, locust, the heaviest mahogany, or lignum-vitæ. Very good light clubs, for women and youth, are made of whitewood, ash, or Mexican mahogany.

The *length* of the club is determined by the length of the arm. The long club

Fig. 14.

Fig. 15.

Fig. 16.

Fig. 17.

Fig. 18.

when held upon the arm extended horizontally, should reach to the point of the shoulder where the arm and shoulder join, as in Fig. 13. The short club in the same position should extend nearly two inches above the elbow.

Indian clubs afford more than a hundred varieties of exercise that are equally well adapted to males and females, individuals and classes. No other apparatus is equally satisfactory for private use. Figs. 14 to 20 give some idea of the various positions.

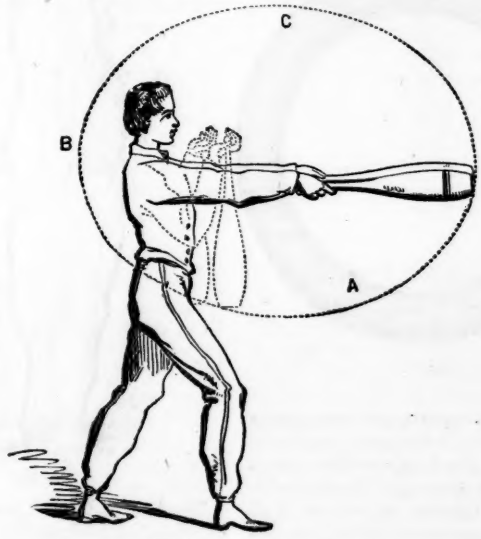

Fig. 18.

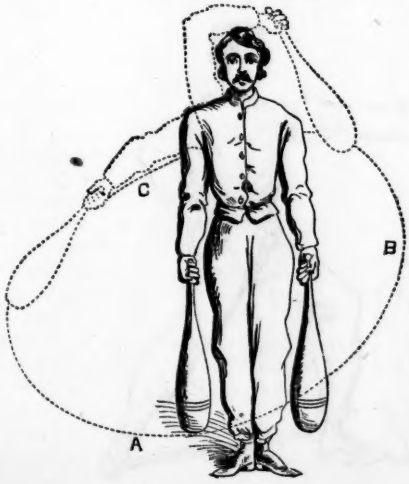

Fig. 19.

Fig. 20.

IV. RINGS.

RINGS made of iron, and employed for movements that are executed by the combined efforts of students arranged in pairs, have been used in our gymnasiums for many years. Although they are worthless in

FIG. 21.

the hands of one person, and consequently inferior to wands, Indian clubs, and dumbbells, yet they afford opportunities for so many graceful positions and effective movements *in combination*, for persons of all ages and degrees of strength, that they are justly classed with the most desirable and valuable gymnastic apparatus.

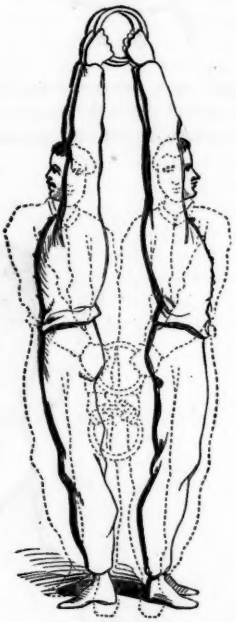

FIG. 22.

The best and most popular rings for exercises in schools and families, for parlor

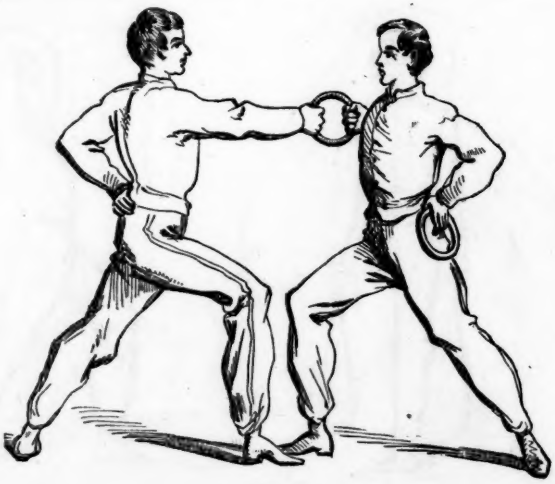

FIG. 23.

games and *tableaux-vivants*, are made of wood. Any common hard wood will answer, though cherry, birch, and mahogany are preferable.

The ring is turned from two pieces of board, one-half of an inch thick, glued together, with their grain running in contrary directions. It should be varnished with shellac, at least three coats, and highly polished. Thus made, it is beautiful and strong. Fig. 21 is a good illustration of a mahogany ring.

Two sizes afford a sufficient variety. The body of the ring, for men and women, is *seven-eighths* of an inch thick, and its inner diameter *four and one-fourth* inches. The ring for boys and girls has an inner diameter of *four* inches, with a body *three-fourths* of an inch thick.

All ring exercises are performed by the combined efforts of the students arranged in pairs, as in Figs. 22 and 23. They should be sedulously practiced; for, while they bring into play every joint and muscle of the body, they are peculiarly effective in increasing the volume and power of the extensors of the shoulder, arm, and forearm—muscles that are usually weak in most persons, and they also give rapid development to the chest.

THE TALKATIVE AND THE TACITURN

TALKATIVE men seldom read. This is among the few truths which appear the more strange the more we reflect upon them: for what is reading but silent conversation? People make extremely free use of their other senses; and I know not what difficulty they could find or apprehend in making use of their eyes, particularly in the gratification of a propensity which they indulge so profusely by the tongue. The fatigue, you would think, is less; the one organ requiring much motion, the other little. Added to which, they may leave their opponent when they please, and never are subject to captiousness or personality.

In open contention with an argumentative adversary, the worst brand a victor imposes is a blush. The talkative man blows the fire himself for the reception of it; and we can not deny that it may likewise be suffered by a reader, if his conscience lies open to reproach: yet even in this case, the stigma is illegible on his brow; no one triumphs in his defeat, or even freshens his wound, as may sometimes happen, by the warmth of sympathy.

All men, you and I among the rest, are more desirous of conversing with a great philosopher, or other celebrated man, than of reading his works. There are several reasons for this; some of which it would be well if we could deny or palliate. In justice to ourselves and him, we ought to prefer his writings to his speech; for even the wisest say many things inconsiderately; and there probably never was one of them in the world who ever uttered extemporaneously three sentences in succession, such as, if he thought soundly and maturely upon them afterward, he would not in some sort modify and correct.

Effrontery and hardness of heart are the characteristics of all great speakers; or if one is exempt from them, it is because eloquence in him is secondary to philosophy, and philosophy to generosity of spirit.

On the same principle as impudence is the quality of great speakers and disputants, modesty is that of the taciturn—especially of great readers and composers. Not only are they abstracted by their studies from the facilities of ordinary conversation, but they discover, from time to time, things of which they were ignorant before, and on which they had not even the ability of doubting. We, my readers, may consider them not only as gales that refresh us while they propel us forward, but as a more compendious engine whereby we are brought securely into harbor, and deeply laden with imperishable wealth.

AN ASTRONOMICAL OBSERVATORY.

NO subject requires the aid of apparatus to illustrate its problems so much as stronomy. It is a science which has been uilt up by the combined agency of observations on natural phenomena, and of mathematical investigations founded upon them. Neither branch of the subject is complete in itself. To make observations upon the heavenly bodies, even with the most perfect instruments, without bringing into use the agency of mathematics to develop them, is at best only a scientific amusement. To study only the laws of astronomy, without going back in our discussions to the fundamental observations, and verifying the methods by which they were made, is, to say the least, to reason without making sure of our premises.

To teach astronomy intelligibly and successfully, both its two great departments must be taken into account. As in land surveying, no instruction in the theory is valuable without the use of surveying instruments, and as in navigation, the principles of the science must be inculcated by the aid of actual observations, so in astronomy, no thorough comprehension of its principles, and no ability to expand and apply them, can be attained without a reasonably complete knowledge of the matter and methods of astronomical observation.

For these reasons it is to be feared that most of the instruction in practical astronomy in our institutions of learning is very defective. A knowledge of the *facts* of astronomy can of course be communicated, but the manner in which the science is built, the methods by which our knowledge of these facts has been obtained, the mutual dependence of theory and observations, these can not be made plain without introducing the student into the mysteries of an observatory. We venture to say that not one student in a hundred, even of our colleges, comes out with any definite ideas of the vast system of facts and computations which have rendered astronomy the most perfect of all sciences.

To remedy these defects, many institutions of learning have provided themselves with extensive observatories. They have purchased large and valuable telescopes, which have been mounted in the most approved methods; and they have added to these all the essential appliances of first-class observatories. Praiseworthy as are these efforts to extend this science in this country, they still fail entirely in giving the kind of aid that is wanted to students in the subject. The very costliness and excellence of these instruments unfit them for the uses of class instruction. Their delicate adjustments would be utterly ruined by subjecting them to the handling necessary to explain their principles to a class of students. If they are to be used for purposes of instruction, they become utterly unreliable and valueless for the refined and delicate observations of the scientific observations of the scientific astronomer. No astronomer who desired his observations to take rank in the scientific world, would for one moment think of permitting his exquisite instruments, with all their complicated mechanisms, to be turned "to such base uses." As soon would the surgeon permit the instruments with which he can find his way along those subtle boundaries which skirt the vital organs of the human frame, and with their exquisite edges can nimbly divide health from disease, and life from death, to be degraded by being used to carve a turkey for his Christmas dinner.

Besides, it would be found that the details of those ingenious mechanical contrivances, which give such power and accuracy to these instruments in the hands of the skillful observer, would serve to confuse and repel the first efforts of the students to master their principles. Comparatively simple and inexpensive apparatus is greatly to be preferred. The instruments themselves may be as perfect as possible of their kind. The glasses may be good, their arrangement convenient; but great power is not at all necessary, and much of the complex apparatus connected with the mounting may be safely dispensed with. The most that can be attained in the limited time usually devoted to astronomy,

will be to make clear the great principles involved in astronomical observation. The minute details of the science, the insight into the improvements which have been introduced into the manufacture of the best apparatus, and the almost miraculous accuracy which has been attained, must be left to the professional student in astronomy. But the great principles of these astronomical instruments, and the philosophy of the problems of time, latitude, and longitude—these can be taught, and they can only be well taught by the use of instruments adapted to the purpose, neither too good to be handled and examined, nor too insignificant to give a clear idea of the working of those which are more perfect.

The trustees of Rutgers College are endeavoring to supply precisely this want in their institution. An equatorial telescope has already been presented to the college by a liberal and public-spirited citizen. The additional instruments required are:

1. *A meridian circle*, serving the purposes both of a transit and meridian circle, and costing, perhaps, $500.

2. *An astronomical clock*, costing $300.

3. Star catalogues, recording apparatus, etc., $150.

4. Building, piers, etc., for mounting, $1,200.

We have no doubt that these needs will be speedily supplied, and that this college will then possess facilities for *teaching* astronomy equal to any in the country.

EDUCATION IN NEW YORK.

THE report of the Superintendent of Common Schools for the State of New York has been presented to the Legislature. The subjoined abstract will afford a clear idea of its scope and character.

The number of school districts in the State reported in 1863 was . . 11,734
In 1862 the number was . . . 11,763

There are 11,753 school-houses, of which 216 are of logs, 9,969 framed, 995 brick, and 573 of stone.

The reports do not show the number of school-houses built during the year to replace others of the same material, but only the amount actually expended for sites, and for building, purchasing, hiring, repairing, and insuring school-houses, and for fences, &c., which was in cities, $242,547.53; rural districts, $186,961.40; total, $429,508.93.

During the last ten years, there have been expended for this purpose $6,322,998.68, and a very large part of this expenditure has been incurred for the erection of better school-buildings, furnished with more appropriate accommodations.

The Legislature of 1863 made an appropriation of $500, to be expended in preparing designs, specifications, and working-drawings, for the school-houses and their accessories, under the direction of the Superintendent of Public Instruction.

The work was intrusted, under his direction, to a competent architect, and will be soon published. It will contain a number of separate plans, with full specifications for building of brick or wood, and with due regard to health, comfort, and economy.

There was expended for libraries in 1863, $29,465.65, of which sum $23,099.95 was expended in the rural districts. The number of volumes in all the district-school libraries in the State is reported as 1,172,404. There is apparently a falling off from the number of the year before. The statistics in this regard are, however, far from being reliable, because, as is well understood, trustees make their reports without even counting the books. The average amount of library money apportioned annually to the rural districts is only $3.05 to each, and the amount expended, $2.77—a sum too small to keep up the waste, to say nothing of adding new books. The libraries are of less value than formerly, for reasons fully stated in the annual report of 1863, and the Superintendent suggests that the people of the districts be allowed to elect whether to expend the library money for books, or apparatus, or for teachers' wages. Also, that they have the power of taxing themselves at least ten dollars

annually to replenish the libraries. He suggests that this would create greater solicitude as to the use, care, and preservation of the books, and that the authority would be exercised by districts in which the libraries are appreciated.

There was expended for school apparatus in the cities, $124,580.03; in the rural districts, $8,626.17; total, $133,206.20 (showing a gratifying increase over the expenditure of the previous year of more than $38,000). Of the amount expended for libraries and apparatus ($162,671.85), the sum of $55,000 was from the income of the U. S. Deposit Fund.

The number of persons in the State between the ages of four and twenty-one years is 1,357,047 (a reported increase over the preceding year of 34,224). Of this number, 453,798 are in cities, and 903,249 in the rural districts.

Of the whole number of children of school ages, 886,815 are reported as having been at some time during the year in school. In 1862, there were 892,550, showing a decrease in attendance of 6,745. This is accounted for by the increased demand for the services of the youth between the ages of sixteen and twenty-one years. Of those who are not themselves connected with the army, many are withheld from the schools on account of the want of necessary laborers. The decrease in the attendance at the academies may be attributed to the same cause.

There are 771 free schools and 1,668 private schools. The attendance upon the latter was 51,023. Two cities do not report private schools. Allowing for these, the attendance is not far from 60,000.

In the colleges there were 2,688 students, and in the academies and academical departments of Union schools, 35,192—making the aggregate attendance upon all the chools in the State, 984,695. A little more han 90 per cent. were in private schools, ½ per cent. in academies, and 3-10 per ent. in the colleges. When so large a proportion of the people look to the common school for the education of their children, the character and support of these schools are of paramount concern.

Making due allowance for the large number of children between four and six years of age, who do not (and ought not) attend school, and for those between sixteen and twenty-one, as above stated, and the number of children of "school age" reported as not attending any school (372,352) creates less astonishment.

Of the seventeen school years as fixed by law, there are therefore, six which are not, practically, school-going years.

Of the 886,815 registered in the common schools, only 72,104 attended over 10 months; 65,161 eight months and less than ten; 115,450 six months and less than eight; 176,221 four months and less than six; 240,328 two months and less than four; and 217,551 less than two months.

A majority of the children, therefore, attend but a very short period each year; and a brief calculation will exhibit the virtual loss incurred by this enormous failure in the duty of school attendance. The aggregate loss of school instruction, for those children who attended less than six months during the year 1863 amounts to 1,876,185 months, equal to 312,697 school years of six months each, in one official school year. If it be assumed that the 634,100 children, whose attendance exhibits this deficiency, could have been taught the whole six months by the corps of teachers actually engaged, then, allowing fifty pupils to each teacher, we have a loss equal to the service of more than 5,000 teachers. The loss, therefore, in the remuneration paid to the 15,703 teachers employed, will exceed one million of dollars annually! and a far more serious and injurious loss is inflicted upon the future of our country. The loss of 312,697 school years is equivalent to the schooling of 312,697 children for one school year of six months. It may be shown that in a single decade, as to these now neglected children, taking one hundred dollars as the minimum value of a lifetime of an educated over that of an uneducated person, and we gain in ten years the sum of $62,539,500; and if this be added to the amount above estimated at $10,000,000, it makes $72,539,500, or an annual relative, none the less real because relative loss, of $7,253,950. Large as the figures appear, they do not show the whole loss. Time (and time is money), the harvest time of youth is lost, and oftentimes

replaced by mischief and damage. Human happiness—all the beneficial results which most surely flow from the acquisition of a knowledge of our political duties as citizens of a free State, from a proper appreciation of the principles of social ethics, and from a conscientious understanding of the obligation of obedience to the wholesome restrictions of law, both human and divine—all are jeopardized or lost, or worse than lost.

Few parents are aware of the serious injury wrought by a day's absence once or twice a week in the child and in school. In the mind of the child despondency takes the place of cheerfulness and courage, indifference supersedes animated interest, and the apathy of ignorance supplants all fruitful desire for intelligence, or for an honorable and useful career in life. In the school the classes are deranged and demoralized, and extra care and labor are imposed upon the teacher in the government and instruction of the pupils. In whatever light presented, the non-attendance and irregularity of the attendance upon the schools, must command the serious attention of the Legislature.

It is suggested, that in the rural districts, greater regularity of attendance might be secured, if a part of the public money were apportioned on the basis of attendance. This would make it the pecuniary interest of every taxpayer to encourage a regular and general attendance at school. This mode of apportionment has been adopted in sister States with happy results.

The average time school was taught during the year, not including the cities, was seven months and eleven days—from year to year quite uniform.

The number of teachers employed in 1862 was 26,500—7,585 males and 18,915 females. In 1863 there were 26,213—6,394 males, 19,819 females. This includes all who were employed for any term, however short.

The number of teachers reported as having been employed at the same time for six months or more (indicating more nearly the number required to supply the schools), in 1862, was 15,685; in 1863, was 15,703.

For the payment of teachers' wages, there were expended, in the cities, $1,294,871.65; in the rural districts, $1,431,015.02: total, $2,725,886.67. This amount is upward of $50,000 less than that expended in 1862, and the decrease may be accounted for in part by the diminution in the number of male teachers, and in part by a more rigid economy practiced in the rural districts, induced by the pressure of the times.

There were raised by local taxation for school purposes:

	In Cities.	Rural Districts.	Total.
In 1863....	$1,595,728.80	$503,181.28	$2,095,910.08
In 1862....	1,560,456.40	507,601.34	2,068,057.74

To the amount raised by taxes in the rural districts, it is necessary, in any comparison with the cities, to add that raised by rate-bill, which was $363,741.05. This will make the sum raised outside of the cities during the past year $886,922.33.

The amount of school money for the fiscal years 1863–4 is as follows:

From the Common School Fund...	$155,000.00
From United States Deposit Fund...	165,000.00
From the State School Tax.....	1,090,841.11
Total.....	$1,410,841.11

This is apportioned as follows:

For Salaries of School Comm'ners..	$56,000.00
For District Quotas.....	428,168.22
For Pupil Quotas.....	871,560.74
For Libraries.....	55,000.00
For Contingent Apportionment...	112.15
Total.....	$1,410,841.11

The actual expenditure for the maintenance of the schools for the years 1862–3, was:

In the Cities.....	$2,030,598.91
In Rural Districts.....	1,828,560.30
Total.....	$3,859,159.21

The New York Institution for the Instruction of the Deaf and Dumb is effectively fulfilling the purpose of its establishment. There are among its pupils 257 beneficiaries of this State; 31 country pupils, under the act of 1863; 33 supported by their friends, and 11 by the State of New Jersey; in all 332. Forty-six State pupils have been appointed during the year, and 43 reappointed. The "high class" has been a success, the pupils having very generally acquitted themselves with credit. The health of the inmates is good; no death has occurred during the year.

In the Institution for the Blind there are 145 pupils—71 males, 74 females. There are 136 State pupils, and nine from New Jersey. During the year, 30 have left by graduation or otherwise, and 17 have been received. The pupils are instructed in common and higher English, music, and various handicrafts, under the direction of 20 teachers. Most salutary reforms have been inaugurated.

In the New York Asylum for Idiots there are 140 pupils, embracing every grade of mental and physical imbecility. With very few exceptions, the pupils give evidence of steady improvement. The institution is doing a noble work in elevating to usefulness and happiness this class of unfortunates. The State appropriation was $18,000—a *per capita* of less than $150 a year for each pupil.

The provisions for the education of Indian children and youth have, during the past year, been faithfully and efficiently carried out. New school-houses have been erected on several of the reservations; the attendance upon the schools has been more regular, and the improvement in the temper and spirit of the people is marked. There are yet, however, disabilities that stand in the way of their advancement in intelligence and the arts of civilized life, which justly claim the attention of the Legislature. There was paid for the support of the Indian schools during the last fiscal year $4,745.20. The current expenses for the year were, however, somewhat larger.—The Thomas Orphan Asylum continues to do its invaluable work, in the care and education of destitute Indian children and youth.

THE CELESTIAL ARMY.

I STOOD by the open casement,
And looked upon the night,
And saw the westward-going stars
Pass slowly out of sight.

Slowly the bright procession
Went down the gleaming arch,
And my soul discerned the music
Of the long, triumphal march;

Till the great celestial army,
Stretching far beyond the poles,
Became the eternal symbol
Of the mighty march of souls.

Onward, forever onward,
Red Mars led down his clan;
And the Moon, like a mailéd maiden,
Was riding in the van.

And some were bright in beauty,
And some were faint and small,
But these might be, in their great heights,
The noblest of them all.

Downward, forever downward,
Behind earth's dusky shore,
They passed into the unknown night;
They passed—and were no more.

No more? Oh! say not so!
And downward is not just,
For the sight is weak, and the sense is dim,
That looks through heated dust.

The stars, and the mailéd moon,
Though they seem to fall and die,
Still sweep, with their embattled lines,
An endless reach of sky.

And though the hills of Death
May hide the bright array,
The marshaled brotherhood of souls
Still keeps its onward way.

Upward, forever upward,
I see their march sublime,
And hear the glorious music
Of the conquerors of Time.

And long let me remember,
That the palest fainting one,
May to diviner vision be
A bright and blazing sun.

T. Buchanan Read.

CONSTANCY.

I NEVER knew but one who died for love,
Among the maidens glorified in heaven
For this most pure, most patient martyrdom,
And most courageous. If courageous he,
Who grasped and held the Persian prow until,
Wielded by desperate fear, the cimeter
Gleamed on the sea, and it ran red below,
From the hand severed and the arm that still
Threatened, till brave men drew aside the brave;
If this be courage (and was man's e'er more?)
Sublimer, holier, doth God's breath inspire
Into the tenderer breast and frailer form,
Erect when Fortune and when Fate oppose,
Erect when Hope, its only help, is gone,
Nor yielding till Death's friendlier voice says, *Yield.*

AMERICAN EDUCATIONAL MONTHLY.

MARCH, 1864.

Special Education.—Agriculture and the Industrial Arts.

In July, 1862, Congress passed an act of the gravest import to the people of the United States. Under its provisions lands were offered to the several States in the ratio of thirty thousand acres for each representative and senator to which the States were entitled under the apportionment of 1860, for the purpose of providing institutions whose "leading object should be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the *liberal and practical education of the industrial classes* in the several pursuits and professions of life."

Any State having no public lands within its limits subject to settlement, or having an amount insufficient to satisfy its quota, is entitled to receive its distributive share in land scrip at one dollar and twenty-five cents per acre. The States desiring to participate in this generous grant must signify their acceptance of it on the conditions imposed, by legislative enactment within two years from the passage of the act of Congress, approved July 2d, in the year aforesaid.

We are informed by the Hon. Isaac Newton, Commissioner of Agriculture, that the following States have accepted the grant, and have received the scrip representing their distributive shares respectively: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Illinois, and Kentucky. The States that have also accepted and are entitled to select within their own limits the quantity of land allowed by the act referred to. are, Michigan, Minnesota, Wisconsin, Iowa, and Kansas.

The number of acres to which the State of New York is entitled under this grant is 1,050,000, Pennsylvania 710,000; and the total amount required to satisfy the claims of the States which have accepted as above is 4,520,000 acres, which, at the government valuation of $1.25 per acre, will represent a capital of $5,650,000, the income of which is to be devoted, without diminution, to the special education of the industrial classes in the "sciences related to Agriculture and the Mechanic Arts."

This act, in effect, inaugurates a great scheme of national polytechnic education. For, although the institutions to be established in accordance with its provisions are called Agricultural Colleges, yet it is manifest, from a perusal of the several sections of the act, that the instruction to be imparted is by no means limited to that special branch. The applications of science to the various arts and military tactics are required to be taught, "without excluding classical and other scientific studies."

The disposition which shall be made of this magnificent endowment by the several States accepting it, is a question of the greatest importance, and there is danger that the designs of the national Congress will be defeated in many cases by a misdirection of the means to be derived from the grant. We doubt whether the designs of the act will be best subserved by a connection of these agricultural institutions with our colleges as they now exist. The act of Congress manifestly points to the organization of schools for the promotion of the mechanic arts, and not for agriculture alone. The objects of our literary colleges seem scarcely to be in harmony with those proposed by the scheme before us. Instruction in agriculture, and in the applications of science to the arts is a *specialty*. The aims of the American college, as it now exists, are general. The purposes of the

two are, therefore, incongruous. An organization which would befit the one would not be adapted to the other.

But there is one feature of the Congressional act which is very significant, and which we hope will not be ignored by those who have the direction of these matters. That feature is most distinctly and emphatically expressed in the words, "to promote the liberal and practical education of the *industrial classes* in the several pursuits and professions of life." Whatever method will best subserve this prime object of meeting the wants of the "industrial classes" is the best. If the toiling millions, the bone and sinew of the republic, are expected in the future to matriculate at the colleges, and if they cannot be gathered into institutions more congenial to their needs and tastes, then we say let the glittering prize go to those venerable institutions of learning, and let us make a virtue of necessity.

But it seems scarcely possible that the order of things is to be reversed in this particular. The masses of the people, the industrial classes, will continue as heretofore to receive their only education in the common schools. Nineteen-twentieths of the people of this country are thus educated, and unless the coveted instruction provided for by this grant can be diverted in part, at least, into this channel, it will fail to accomplish its legitimate purpose as expressed in the act. We need not so much a highly educated few, who will never mingle in the daily toil of the workshop or the farm, but rather the intelligent, thinking many, with minds stored with the elements of that knowledge which is to "fit them for the various pursuits and professions of life." These suggestions are offered in the kindest spirit, and with the sincere desire that a movement so important in its aims should not be diverted into a wrong channel. The questions involved demand, and we trust they will receive, the most careful and dispassionate consideration.

The Dearth of Qualified Teachers

SOME of the causes of the deficiency in the supply of competent teachers have heretofore been alluded to. Among them we have specified, *first*, the stinted and inadequate compensation paid to this class of public servants; and, *secondly*, the gradual elevation of the standard of qualification among them, with the consequent retirement from the service of many heretofore regarded as being fitted for its duties.

In specifying still further the causes which have contributed to this state of things, we must not omit to say, that a want of the agencies adequate to the *special training of teachers* is one of the most potent of all. Teaching is one of the most difficult of arts. It is a profession, in fact as well as in name. Its true practice is based upon the profoundest principles of human nature, and upon the ripest fruits of human experience. These principles must be mastered as a condition precedent to all really successful performance of the teacher's work. The skill which study and experience alone can give must be acquired, or, at least, provided for, by previous preparation. To this end Normal Schools or Teachers' Seminaries are indispensable.

These institutions are quite new in our country, and their number is extremely limited. Compared with the army of teachers required to carry forward the stupendous work of public instruction, they are but as "a drop in the bucket." Only eleven States have established them, and of these only three—Maine, Massachusetts, and New Jersey—have more than one. The number of teachers employed in the common schools of New York is not far from 25,000. The number in attendance at its single State Normal School does not exceed 250 persons. This gives a ratio of 1 normal student to 100 teachers in the common schools. Pennsylvania employs in the course of the year probably not less than 20,000 teachers, and has but one Nor-

mal School which is recognized by the State; so that she would present about the same ratio of Normal students to actual teachers. In New Jersey the ratio of "Normals" to the common-school teachers is about one to twenty.

If Teachers' seminaries possess the potency which is claimed for them, and on this point there is no longer any room for doubt, it will appear evident that their absence in so many States, and their limited number in others, will go far toward accounting for the deficiency in the supply of competent instructors required for the schools of the country; for it is undeniable that these Normal Schools, as small as their number may be, have been the principal means by which the standard of qualification has been raised.

And again. If the foregoing exhibition of causes be just, it will at once suggest the needed remedies, and prepare the way for a consideration of the means whereby a pressing public want may be supplied.

Every public economist knows that money will command talent. He knows that by the same law the highest prices will secure the service of the highest attainments. Nothing is more certain either, than that men ought to be compensated according to the value of the services rendered. In this view, a faithful, successful teacher is "a pearl of great price," and ought to be so regarded by the community. He *will* be so regarded when society rises to a true appreciation of those influences which most redound to its prosperity and happiness. The day is coming when the true teacher will be second to no other functionary in the estimation of the thoughtful, the just, and the good everywhere. Let the public, let school-officers, let all who have in their keeping the training and education of children, bear in mind that henceforth they are not to estimate the value of a good teacher by the price paid, unless it be a *high one*. Let them remember that so long as they ease their consciences by employing incompetence at starvation prices to *keep school*, just so long must they make up their minds to see their children, with dwarfed and distorted souls, coming upon the theater of life but to blight their expectations and to bring sorrow and anguish to their hearts. An evil tree can not bring forth good fruit, nor can a good tree produce corrupt fruit. Let the people give palpable evidence that they value the character and happiness of their children above the paltry promptings of a love of lucre; and let them pay their teachers upon a scale somewhat approximating to the standard of their importance and worth, and the time of Dearth will be succeeded by an era of Plenty in the land.

The remedy to be further suggested will be found considered elsewhere, in the discussion upon the subject of Normal Schools.

Normal Schools.

THESE institutions have not received that share of attention in our country to which their great importance entitles them. Only eleven States have yet recognized them as a necessary adjunct of their school systems, and even in these they have scarcely passed the experimental stage.

The Normal Schools at present existing are distributed as follows: Maine has provided for two, which are not yet in operation; Massachusetts has four; Connecticut one; Rhode Island one; New York one; New Jersey two; Pennsylvania one; Michigan one; Illinois one; Wisconsin one, and Iowa one. The number in existence in these States is yet by far too small to supply the public demand for trained, professional teachers. A State like New York ought to have at least ten, equal to that at Albany, to meet her home demand for competent instructors. Pennsylvania needs as many more, and other States in like proportion. In the twenty-four remaining States no provision has been made for these teachers' seminaries, if we except South Carolina. In that State there was, before the advent of the rebellion, such an institution at Charleston. We have no

means of knowing whether it is now in existence, and hence have not included it in the roll of *Normal States.*

The experience of those communities in which these schools have had a fair trial is in all respects satisfactory. They have awakened a new interest in popular education; they have raised the standard of qualification; they have improved the methods of instruction and discipline; they have aroused a healthful emulation, by generating the true *esprit de corps* among teachers; and they are gradually elevating their calling to the rank and dignity of a learned profession.

The sole object of a Normal School is to train the teacher to the principles and practice of his difficult art. Their entire organization and course of instruction must have special reference to this end. They are not designed to be mere scholastic or literary institutions in the ordinary sense, but professional seminaries, performing the same office with reference to the art of teaching that schools of law, medicine, and divinity do to their respective specialties.

Such institutions are the great want of our age and country. They ought to be multiplied so as to correspond in number and in influence to our increasing population and our expanding territorial domain. We must have, not the *schoolmaster* alone, but the intelligent, the skillful, the successful schoolmaster abroad in the land. The day is rapidly hastening when drones and imbeciles and ignoramuses will no longer be allowed to trifle with the most precious years of childhood, and peril the best interests of society by being allowed to *occupy* our school-houses, and prevent, instead of assist, the natural growth of the youthful mind of the nation.

Normal Schools are the potent agency by which the occupation of such teachers is to be destroyed, and through which intelligence, skill, energy, and devotion are to be installed into the places of power and influence in the school-houses of the land. It is somewhat surprising that, after the long and successful trial through which these institutions have passed, both in Europe and America, they do not command more of the attention of the promoters of education in our country. The teachers of a nation in a great measure determine its character. And Normal Schools, when equal in number and power to the public wants, may be made to decide the character and qualifications of the teachers, and hence, through them, the national destiny. They constitute the legitimate head of a school system. No such system is complete without them, nor can it be truly efficient unless sustained by their life-giving influence.

We hope to be instrumental in popularizing these institutions. To be appreciated, they have only to be known. To be known, they must be made a topic of more frequent discussion in public journals and in educational conventions. It is not enough that the few which exist in the country should be left to propagate the doctrines upon which they are founded by the silent influence of their quiet example alone. We earnestly commend their claims to the consideration of those States where they have not had a trial. They need no indorsement in the communities where they already exist.

Primary Schools.

IF, as Edward Everett declares, the child at four years of age learns more than the philosopher at any subsequent period of his existence; if, as Professor Henry affirms, the character of the individual is in a great measure formed before the seventh year; if, as is asserted by a competent authority, a child may be taught during the first ten years of his existence to violate without remorse every law, human and divine,—then it is impossible to over-estimate the importance of the primary school, and of early education.

The concurrent testimony of all whose opinions are entitled to respect upon this subject, proves that the most critical, and,

at the same time, the most precious portion of human life is comprised within the period measured by the first ten years. It is during this period that those habits are formed which go so far toward determining the future character. These early habits remain, when all vestiges of those which are acquired in later years are swept away. Hence, what infinite consequences depend upon the influences of the home and the primary school, and with what anxious solicitude should the parent, should the teacher, should society watch over these momentous years! What patience, what skill, what affectionate interest, what undying devotion should guide and control the action of the mother of a family and the teacher of a primary school! We ask attention to a series of contributions upon this subject, the first of which will be found in the present number.

That School Swindler again!

ABOUT a year ago, in the columns of the Educational Herald, a full account was given of the trial and conviction of the notorious rogue who had been doing a large business in swindling the proprietors of boarding-schools. We then promised our readers that this "Col. Merritt" would no more commit his depredations upon the well-earned money of teachers, and that, for a term of years, at least, he would reap the just "reward of Merit" in the State prison at Sing Sing. We were, however, destined to be disappointed, as will be learned from the following communication, which we copy from the correspondence of the *N. Y. Daily Times*.

We could add many names to the list of persons swindled given by Chief Detective Franklin, but we need not do it now. The operations of this shrewd fellow have been extensive, and we trust that proprietors of schools will be on the look-out, and not permit him to begin his peculiar business again.

Mt. Pleasant Military Academy,
Sing Sing, Tuesday, Jan. 26, 1864.

Will you please inform the public through the columns of your paper that the notorious forger and school swindler, "Col. Merritt," alias "Col. Nelson," "Col. Parker," "Stansbury," &c., &c., has made his escape from Sing Sing prison. He did not break through the walls of that institution, but effected his escape by means of a *pardon granted him by Gov. Seymour*. We have known of many cases in which it would seem that this pardoning power of the Executive has been abused, but we never dreamed that such a flagrant case as this could occur. Merritt is a *professional rogue*. The detective police of most of our large cities have been on his track since 1860, and his portrait occupies a prominent place in the "rogues' gallery" of Philadelphia. He was arrested in West Chester, Penn., in 1861, for forgery, but managed to make his escape after a few days' confinement. He operated extensively in the vicinity of New York during the spring of 1860, and, to our certain knowledge, succeeded in playing the "confidence game" upon a dozen or more proprietors of boarding-schools. He again made his appearance here in March, 1862, when we caused his arrest for attempting to pass upon us a forged draft for $250. He was brought to trial in December following, convicted and sentenced to the penitentiary for two years. It was a clear case, *as we caught him in the act*, and the jury found him guilty, scarcely leaving their seats. There was no chance for any defence, though he had able counsel.

To show the extent of this swindler's operations, we copy from a letter (inclosing an excellent photographic likeness of Merritt) which we received last March, from Mr. Franklin, Chief of Detective Police, Philadelphia. Speaking of Merritt, Mr. Franklin writes:

"He is almost ubiquitous. We have been after him since the beginning of 1861—now in New Hampshire, then at St. Louis, Mo., next in Maryland, &c., &c. We obtained his picture in Concord, N. H. Introduced himself there to the F. F.'s as Col. Alex. H. Nelson (of the Fifty-ninth Fusileers), son of Judge Nelson. Leaving

Concord, he went to White River Junction, and swindled the proprietor of the young ladies' seminary. Oct. 29, 1861, was at York, Penn., and swindled them. Aug. 21, at Media, Penn.; swindled Mr. Gailey there. Aug. 19, at Mr. Joy's school; got $35 from Mr. Moon. Swindled Rev. Mr. Malat at Mechanicsburgh; also Bishop Whittingham, St. Luke's Hall, near Baltimore; also Eden Hall, Tonesdale—wanted to place a pupil there and pay in advance. Gave a check for $200 and wanted the change. Called on Mr. Wells, of Bucks County, as Robert Lawson, son of an eminent wool-dealer. Pulled the wool over his eyes to the tune of $200. He has been among the doctors and professors of our university as Charles Ives, brother of Dr. Ives, of New Haven, Conn. Got from all $5,000 to $6,000. Is very fluent. Knows everybody and every thing, almost. Power of adaptation remarkable. His real name is Isaiah J. Porter; born and raised in Little York, Penn. Sent to the House of Refuge here when a boy for setting fire to a house. If he is still in custody please let me know, that measures may be adopted for his removal here when you have done with him."

This is the fellow whom Gov. Seymour let loose on the community on New Year's Day. We know not upon what pretence the pardon was based, for the matter wa so adroitly and secretly managed, that it i more than three weeks after Merritt's es cape when we first learn of the fact. The authorities of Philadelphia, and a number of school teachers (including a clergyman in Connecticut, who was present at the trial and testified that Merritt had swindled him out of $150 by means of a forged draft), stood ready to rearrest Merritt at the expiration of his term of sentence. But Gov. Seymour has stolen a march on them, and Merritt is probably now plying his former vocation. He is, doubtless, connected with a gang of forgers and counterfeiters, and money was probably freely used in obtaining his release. A lawyer of this place was offered $500 for his assistance in the matter, but we are glad to record that the bribe was declined. We will only add, that no greater outrage upon justice was ever committed than in this release of the criminal Merritt. Respectfully, yours,

BENJAMIN & PHELPS,
Principals M. P. M. Academy.

EDUCATIONAL INTELLIGENCE.

THE report of Hon. F. W. Ricord, State Superintendent of Public Schools of New Jersey, for the past year, presents some interesting facts illustrative of the rapid progress of education in that State. We are indebted to Mr. Ricord for the following summary of the report which has recently been presented to the legislature:

The increase of money expended during the year for the support of public schools is $10,000 more than the aggregate increase of the three years preceding.—The report speaks in the highest terms of township school-officers, who have, during the past year, manifested an unwonted degree of zeal in the discharge of their duties. Their returns are represented as very full and remarkably correct. Everywhere the people are solicitous for their schools, and earnest in their efforts to elevate their character and increase their usefulness. A feeling prevails that the State ought to do something in aid of such districts as are poorly provided with the apparatus so essential to profitable instruction.

One hundred and thirteen additional schools have been opened and maintained during the year, and of the whole number in operation, 684 have been entirely free. The number of schools under the care of religious societies, and entitled, under the 12th section of the act, to a share of the public money, is comparatively small, being only 44. The amount apportioned to these schools was $7,456.13. These schools are chiefly in the southern sections of the State,

and are represented as very flourishing, and affording superior advantages for instruction.

The whole number of children in attendance at school is much larger than ever before reported, the increase being nearly 11,000. The average time that the schools have been kept open is nine months, and the average tuition per quarter $1.39.

The number of female teachers is continually increasing. Ten years ago, the number of male teachers was double that of the female. In the year 1862 the number of females was greater by four than that of males; and during the last year, the females exceeded the males by 256.

The sum of money raised and appropriated for educational purposes is greater, as already stated, than that reported last year. The increase is $43,142.59. The sources from which it has been obtained, and the purposes for which it has been used, may be shown as follows:

By the State for the support of the Normal School	$10,000.00
By the State for the support of Farnum Preparatory School	1,200.00
By the State for the support of Public Schools	80,000.00
Raised by tax for the support of Schools	403,190.71
Raised by tax for the building, repairing, and furnishing School-houses	41,593.47
Received from other sources	81,181.92
	$617,166.10

The report contains the decisions rendered by the State Superintendent during the last four years, and they are so arranged as to make a most valuable guide to township and district officers in the discharge of their various duties. The decisions, we understand, will accompany a new edition of the school laws now in press. They ought also to be published in a separate form, and distributed without delay throughout the State.

Large and convenient high-school buildings are being erected in Manchester and Concord, N. H.

The friends of Waterville (Maine) College are making an earnest effort to raise $100,000 for its benefit.

Turkey.—The *Star of the East*, a journal published at Constantinople, affords the following particulars of the Christian Schools in the Turkish Empire. These are derived, according to that journal, from the bureau of the Ministry of Public Instruction in Turkey:

At Constantinople and in the environs: schools, 144; professors, 472; pupils of both sexes, 16,217. Subjects of instruction: general history, sacred history, philosophy, the catechism, grammar, mythology, geography, arithmetic, geometry, physics, theology, ethics, caligraphy; languages—the Greek, French, Turkish, Latin, etc.

In Roumelia and the isles of the Archipelago: schools, 1692; professors, 1857; pupils of both sexes, 87,231. Subjects of Instruction: the Greek and Bulgarian languages, and in certain schools arithmetic, geometry, geography, history, caligraphy, and the French and German languages.

In Anatolia and Arabia: schools, 726; professors, 903; pupils of both sexes, 34,950. Subjects of instruction: the Gospel and the Psalms; languages—the Arabic, Turkish, Chaldaic, Syriac, Greek, and Armenian; history, geography, music, and manual labor. Total: schools, 1,562; professors, 3,112; pupils (both sexes included), 138,387.

In Constantinople itself, and in the suburbs, there are counted 127 schools, of which 77 are Greek, with 6,477 pupils; 4 Protestant, 82 pupils; and 8 Catholics, 509 pupils. The Greek schools are divided into two categories: 45 inferior or "allelodidactic," so termed from the system of mutual instruction adopted in them; and 25 Hellenic schools or gymnasia, in which the principal subject of instruction is the Greek language.—*English Journal of Education.*

Mr. W. J. Phipps, Superintendent of Schools, New Bedford, Mass., has been appointed Superintendent of Schools in Lowell.

Hon. John D. Philbrick, the able and popular Superintendent of Schools in Boston, has been appointed a member of the Massachusetts Board of Education.

EDUCATION IN OHIO.—The report of the School Commissioner of Ohio explains fully why that State stands so uncompromisingly on the side of liberty and good government. The number of schools taught in the State during the last year was 14,661, of which 14,233 were common schools, open to all. The number of children enrolled in these common schools was 725.095. The whole number enrolled in schools of all classes was 750,413. It is noteworthy that, during the year, 7,229 colored children received the benefits of the educational system. The total expenditures for educational purposes in the State amounted to $2,409,613.

No State which boasts an educational system so complete and thorough as this, can ever array itself on the side of a cause so opposed to the best influences of Christian civilization, as that which Davis and his crew are striving to make successful. Twenty years hence, when Kentucky, Tennessee, Virginia, North Carolina, and the other slave States shall have been enlightened by the same educational system as the Northern States now enjoy, they will be found as vehemently hostile as Ohio and Massachusetts to whatever degrades the citizen or corrupts the State.

THE last meeting of the Rhode Island Institute of Instruction, at Providence, was well attended, and the exercises were spirited and instructive. Hon. John D. Philbrick, of Boston, gave a lecture on self-education, which was full of thought and practical suggestions. Among the other exercises was an interesting discussion on "Object Teaching," and Prof. Tenney's lecture on Physical Geography, illustrated by the aid of Prof. Guyot's invaluable maps.

THE school system of New Orleans has been vastly improved under Federal rule. The schools have been organized under common regulations, doing away with former irregularities; the English language only is taught in the primary schools, instead of the French, as formerly; and other improvements equally important have been introduced, making the system vastly more efficient and far-reaching than ever before.

THE Massachusetts State Reform School has a nautical branch, from which, last year, sixty-two boys were shipped in the naval service, and forty-seven in the merchant service. The addition of similar departments to the Reform Schools of other States would prove a national advantage

SCIENTIFIC INTELLIGENCE.

THE old idea that the Nile took its rise among the mountains has been verified by the discoveries of Speke and Grant; and the other old story, that those mountains, although almost under the equator, have their summits covered with eternal snow, seems now to have been confirmed by the discoveries of a Hanoverian traveler, Baron Von Decken, who attended a late meeting of the Royal Geographical Society in London, and gave an account of his ascent of the peaks of Kilimanjaro and Kenia.

The former of these mountains, which is the highest peak in Africa, rises 20,000 feet above the level of the sea, and the snow-line descends below the level of a point 16,000 feet high. Baron Von Decken has himself ascended the hill about 14,000 feet, and made a careful examination of its geological features. He notices a very curious fact in insectology. The neighborhood of the hill is infested with an insect called the *dondorovo*, which attacks and kills horses and donkeys, but does not trouble other animals.

The inhabitants own no horses, and can not keep them in consequence of the destructive ravages of this insect. The Baron lost his donkeys within two days after entering the country, their death proceeding from the sting of the dondorovo. The Baron is now in England, arranging an outfit of an expedition to ascend one of the African rivers emptying into Formosa Bay.

by which route he hopes to reach a point near the mountains.

He intends taking out a steamer for the expedition, with which he thinks it possible to ascend one of those rivers very near to the base of the highest peaks. The British government has already given instructions to the officers in charge of the squadron on that station to render every assistance to this enterprising traveler when he again visits the east coast of Africa.

At the same meeting of the Geographical Society at which Baron Von Decken was present and stated the facts of his discoveries, another gentleman stated that he had received letters from two Dutch ladies who had set out on a journey to the sources of the Nile, or the interior of Africa, and who, when they wrote, had reached a point far beyond Khartoun, in good health and condition. There are now several parties of travelers in the Ethiopian country, and we may expect, before long, to hear of many important discoveries.

Electrical Properties of Pyroxiline Paper and Gun-cotton.—It has always been supposed that sulphur becomes charged with *negative* electricity by friction with all other substances, as cats' fur, on the other extreme, becomes *positively* excited by friction with all other substances. Prof. Silliman, however, in the *American Journal of Science* for January, 1864, notices the discovery, by Prof. Johnson, of Wesleyan University, Conn., that sulphur becomes *positively* excited by friction with pyroxiline paper (which is prepared in the same manner as gun-cotton). He says:

"I have repeated and confirmed Prof. Johnson's experiments, extending it to gun-cotton. I find, as he suggests, that the latter substance produces the same excitement of positive electricity which is produced by pyroxiline paper. The most energetic effects are produced when vulcanized india-rubber is the electric. The opposite effects in this substance produced by flannel and the gun-cotton or pyroxiline paper are very striking, and will form a good lecture-room illustration. These substances also produce powerful positive excitement in glass. It is difficult, from the use of pith-balls alone, to determine which produces the most powerful positive excitement, glass or hard rubber, when excited by gun-cotton or pyroxiline paper. This seeming anomaly, confounding our ordinary means of discrimination in cases of electrical excitement, demands further investigation. It would appear that of negative electrics yet observed, these azotized species of cellulose are the most remarkable, in comparison with which the most highly negative electrics hitherto known become positive."

The Use of Deep Roots.—The following interesting experiment is described by Prof. Johnson, of New Haven:

"On the 13th of May, 1862, a young raspberry plant, having but two leaves, was transplanted into a large glass funnel filled with garden soil, the throat of the funnel being closed with a paper filter. The funnel was supported in the mouth of a large glass jar, and its neck reached nearly to the bottom of the latter, where it just dipped into a quantity of water. The soil in the funnel was at first kept moderately moist by occasional waterings. The plant remained fresh and slowly grew, putting forth new leaves. After the lapse of several weeks, four strong roots penetrated the filter and extended down the empty funnel-neck, through which they emerged on the 21st of June, and thence forward spread rapidly in the water of the jar. From this time on, the soil was not watered any more, but care was taken to maintain the supply in the jar. The plant continued to develop slowly; its leaves, however, did not acquire a vivid green color, but remained pale and yellowish: they did not wither until the usual time, late in autumn. The roots continued to grow, and filled the water more and more. Near the end of December the plant had 7–8 leaves and a height of 8 inches. The water-roots were vigorous, very long, and beset with numerous fibrils and buds. In the funnel-tube the roots were a perfect tissue of fibers. In the dry earth of the funnel the roots were less extensively developed, yet exhibited some juicy buds. The stem and the young axillary leaf-buds were also full of sap. The water-roots be-

ing cut away, the plant was put into garden soil and placed in a conservatory, where it grew vigorously, and in May bore two offshoots.

"The experiment makes it quite certain that plants extend a portion of their roots into the subsoil chiefly for the purpose of gathering supplies of water."

TITLES OF MEMOIRS READ AND OF ORAL COMMUNICATIONS MADE AT THE ACADEMY OF SCIENCES, JANUARY SESSION, 1864.

1.—The elements of the mathematical theory of quality..BENJAMIN PEIRCE.

2.—Reduction of the observations of fixed stars made by J. J. Lefaute d'Agelet, at Paris during the years 1783–5, with a catalogue of the corresponding mean places referred to the equinox of 1800 ....B. A. GOULD.

3.—The Saturnian system. First memoir ....BENJAMIN PEIRCE.

4.—On individuality among animals, with reference to the question of varieties and species....L. AGASSIZ.

5.—On the metamorphoses of fishes...L. AGASSIZ.

6.—On the geographical distribution of fishes, as bearing upon their affinities and systematic classification....L. AGASSIZ.

7.—Discussion of magnetic observations made at Girard College observatory, in the years 1840–5.

Parts 4, 5, 6.—Horizontal force: investigation of the eleven-year period of the solar diurnal variation and annual inequality, and of the influence of the moon. Abstract....A. D. BACHE.

8.—Discussion of magnetic observations, &c.

Parts 7, 8, 9.—Vertical force: investigation of the eleven-year period, of the solar diurnal variation and annual inequality, and of the influence of the moon....A. D. BACHE.

9.—On the force of fired gunpowder, and the pressure to which guns are actually subjected in firing....F. A. P. BARNARD.

10.—Description of an anemograph, designed for the University of Mississippi....F. A. P. BARNARD.

11.—On materials of combustion for lamps in light houses....JOSEPH HENRY.

12.—Notes on the parallelogram of forces, and on virtual velocities..T. STRONG.

13.—On photographs of the solar system ....L. M. RUTHERFORD.

14.—On tangencies of circles and spheres ....J. G. BARNARD.

15.—Observations of the planet Venus near the times of her inferior conjunction, September 28, 1863, and subsequently....By Prof. STEPHEN ALEXANDER.

16.—Brief note on the forms of icebergs ....By Prof. STEPHEN ALEXANDER.

TITLES OF REPORTS.

Report of the Committee of the National Academy of Sciences, appointed at the request of the Treasury Department, "On Weights, Measures, and Coinage." The Committee made a brief report of progress, and asked to be continued, so as to give information, when desired by the Government, in regard to the technical points of the subjects now under consideration by European nations.

Report of the Committee of the National Academy of Sciences, appointed at the request of the Navy Department, "On the protection of the bottoms of iron vessels from injury by salt water."

Report of the Committee of the National Academy of Sciences, appointed at the request of the Navy Department, "On the subject of magnetic deviations in iron ships."

Report of the Committee of the National Academy of Sciences, appointed at the request of the Superintendent of United States Weights and Measures, "On Saxton's Alcoholometer."

Report of the Committee of the National Academy of Sciences, appointed at the request of the Navy Department, "To investigate and report on discontinuing the publication, in the present form, of the *Wind and Current Charts* and *Sailing Directions*." The subject of this report was what are commonly known as Maury's wind and current charts and Sailing Directions. They were unfavorably reported upon, and after a thorough discussion the following resolutions were adopted by the Academy:

Resolved, By the National Academy of Sciences, that in the opinion of this Academy, the volumes entitled "Sailing Directions," heretofore issued to navigators from the Naval Observatory, and the "Wind and Current Charts," which they are designed to illustrate and explain, embrace much which is unsound in philosophy and little that is practically useful, and that therefore these publications ought no longer to be issued in their present form.

Resolved, That the records of meteorological phenomena, and of other important facts connected with terrestrial physics, which, under the direction of the Navy Department, have been accumulated at the Observatory, are capable of being turned to valuable account, and that it is eminently desirable that such information should continue to be collected and subjected to careful discussion.

Resolved, That the President of the Academy be authorized and requested to communicate to the Secretary of the Navy a copy of the foregoing resolutions, and of this report, as a response to the inquiry addressed to the Academy upon this subject by that officer.

Report of the Committee of the National Academy of Sciences, appointed at the request of the Treasury Department, "On the methods of protecting the National currency from being counterfeited."

MISCELLANY.

Pompeii has revealed new secrets. A late letter from Naples says that five fresh rooms have been laid open in that part of the buried city which has been uncovered this year, not far from the Forum. Among the articles discovered in these rooms were a number of pieces of bread, which must have been wrapped up in a napkin, the tissue of which is still in a perfect state of preservation. There has been also found a pretty seal, having for motto the words "Ani. Mo," which M. Fiorelli, the inspector of the excavations, considers an abbreviation of a proper name—"Anicelus Modestus." M. Felix Padiglione, the artist who is reproducing Pompeii in cork, at one hundredth of its natural size, has just added considerably to that work, which travelers may see in the small museum of odds and ends at the ruins.

Air and Ocean.—Interesting Items.—The air is made up of a mixture of two gases, oxygen and nitrogen, and it always contains considerable watery vapor and carbonic acid. In his new work on Chemistry, Prof. Youmans states, that if all the air were reduced to its average density at the earth's surface, it would extend about five miles high, and that if the above constituents were arranged in layers one over the other, we should have first, at the bottom, a bed of water all over the earth's surface 5 *inches* deep; next a layer of carbonic acid 13 *feet* deep; next above, a layer of oxygen gas about 1 *mile* deep; and above this a layer of nitrogen gas about 4 *miles* deep.—Sea water contains about four *ounces* of salt in every gallon. Estimating the ocean to average two miles in depth, the salt, if separated in a solid bed, would line the bottom of the entire ocean to a depth of 140 feet.

There are nearly three thousand miles of railway in India—all laid by the British within the last ten years. Last year these roads carried six million passengers. Some of the works surpass in magnitude any thing in England. The bridges on the Baroda line, constructed of wrought iron girders and built on foundations of screw piles, cross water-ways to an extent of about six miles. The Soane bridge, on the East Indian line, consisting of twenty-seven iron girders of one hundred and fifty feet each, is twice the length of the new railway bridge at Charing-cross.

Knowledge and timber shouldn't be much used till they are seasoned.

Railroad Speed.—Many fatal accidents occur on railways by persons attempting to drive across them when a train is approaching. The danger lies in miscalculating the rate at which a car moves when under full headway, which is said to be about seventy-four feet, or nearly twice its own length, in a second.

"At this velocity, the locomotive driving wheel, six feet in diameter, makes four revolutions in a second, the piston-rod thus traversing the cylinder eight times. If a horse and carriage should approach and cross a track at the rapid rate of six miles an hour, an express train approaching at the moment would move toward it two hundred and fifty-seven feet while it was in the act of crossing; if the horse moved no faster than a walk, the train would move toward it more than five hundred feet, which fact accounts for the many accidents at such points. When the locomotive whistle is opened at the post, eighty rods from the crossing, the train will advance near one hundred feet before the sound of the whistle traverses the distance to, and is heard at the crossing."

Gaining Strength.—A student in one of our State colleges was charged by the Faculty with having had a barrel of ale deposited in his room, contrary, of course, to rule and usage. He received a summons to appear before the President, who said:

"Sir, I am informed that you have a barrel of ale in your room."

"Yes, sir."

"Well, what explanation can you make?"

"Why, the fact is, sir, my physician advised me to try a little ale each day, as a tonic, and not wishing to stop at the various places where the beverage is retailed, I concluded to have a barrel taken to my room."

"Indeed! have you derived any benefit from it?"

"Ah! yes, sir. When the barrel was first taken to my room, two weeks since, I could scarcely lift it. Now I can carry it with the greatest ease."

Origin of Familiar Phrases.—The term "masterly inactivity" originated with Sir James Mackintosh. "God tempers the wind to the shorn lamb," which everybody who did not suppose it was in the Bible credited to Sterne, was stolen by him from George Herbert, who translated it from the French of Ernestine. "The cup that cheers but not inebriates," was conveyed by Cowper from Bishop Berkeley, in his "Siris." Wordsworth's "the child is father to the man," is traced from him to Milton, and from him to Sir Thos. More. "Like angel's visits, few and far between," is the offspring of Hook—it is not Thomas Campbell's original thought; Old John Norris (1658) originated it, and after him Robert Blair, as late as 1745. "There's a good time coming," is Scott's phrase in "Rob Roy;" and the "almighty dollar" is Washington Irving's happy thought.

It is better to live in hearts than in houses. A change of circumstances, or a disobliging landlord, may turn one out of a house to which he has formed many attachments. Removing from place to place is, with many, an unavoidable incident of life. But one can not be expelled from a true and loving heart, save by his own fault.

Beauty of Technicality.—A medical paper perpetrates the following: "M. Bouchat tells us that he has studied meningitis by the aid of the opthalmoscope. He discovered congestions and nervous dilatations, varicosity of veins and hemorrhage in the retina, from the rupture of vessels." This is a circum-round-about manner of communicating to the professional reader that the various incidents, circumstances, conditions, and complications of an inflamed membrane are an accumulation of blood and relaxation of blood-vessels.

A French paper relates that, when Rothschild was asked whether he would not like to become a temporal King of the Jews in Palestine—"Oh, no!" said he: "I would rather be a Jew of the Kings than a King of the Jews."

To have the tongue cut out, and to be seated deaf and dumb in a corner, were preferable to his condition who can not govern his tongue.—*Sadi.*

LITERARY NOTICES.

GUYOT'S HEMISPHERES. New York: Chas. Scribner.

This splendid map was briefly noticed in our last. Its great merit, however, and the educational want which it is so well adapted to supply, warrant us in giving it a more detailed description than heretofore. The hemispheres are each thirty-six inches in diameter, and mounted on one sheet. In depth and harmony of coloring and in boldness of outline, it even surpasses its predecessors in the series. The standard of relief is the same as in South America. The green tint representing average surfaces of land below 1,000 feet altitude, the brown, the average surfaces between 1,000 feet and 10,000 feet, and the white or uncolored portions, representing surfaces of land above 10,000 feet altitude. Thus, the valley and lowlands, the table-lands and the high mountain ranges, with their related river systems, are developed with a strength and beauty of expression heretofore unattained. The sea surfaces are represented in a light, deep, azure blue, making the contrast between the oceanic and continental outlines exceedingly striking, and wonderfully facilitating the mastery on the part of the student of the laws of contour pertaining to each of these great elements. The regions of perpetual ice, embraced within the frozen zones of the north and south, are shown by *linear* colorings in blue, the borders of the yet mysterious Antarctic Continent peering out from the eternal ice-fields of the far southern seas.

Besides the principal hemispheres above described, this map presents other facilities heretofore seldom afforded for the study of comparative physical geography. We allude to a series of eight *secondary* hemispheres, as we should denominate them, located on the four corners of the sheet, and colored, respectively, azure blue and deep brown, to represent merely the land and water elements in the aspect of their relative contours, the quantity of each, and the contrast between the northern and southern portions of our planet with respect to the distribution of land and water.

These secondary hemispheres show, *first*, the Pacific Ocean in its entire contour; *second*, the Atlantic Ocean, and the significant phenomenon of the parallelism of its sides; *third*, the land and water hemispheres, formed by drawing a great circle at once through the coast of Peru and the south of Asia; *fourth*, the northern and southern hemispheres, with their relative proportions of land and water.

Superadded to these details, Prof. Guyot has here given us an approximate profile of the great basin of the Atlantic Ocean, extending from Central America on the west, through the Caribbean Sea, cutting the West India Islands; then passing through the main gorge of the Atlantic, the greatest depth of whose northern section is supposed to be 30,000 feet, or five miles; thence, stretching through its principal basin, crossing the Cape De Verde Islands to the coast of Africa in latitude 17° north.

Nor is this all. As if to exhaust the resources of invention in order to give almost at a glance, not an epitome only, but an enlarged and comprehensive view of the terrestrial surface, this learned man has here afforded us also, in a series of bold relief-pictures, accompanied by scales of measurement, "The comparative altitude of the table-lands and mountains of the world" in their most striking and characteristic features. The profile of the American system commences at Cape Melbourne in the Russian Possessions on the north, and passing southwardly near the volcanoes of Hjamin and St. Elias to Mt. Brown in British America, Mt. Rainier, Shasta Butte, and Pike's Peak in the United States, showing also the physical elevation, as if to contrast it with the moral depression, of Salt Lake City, the Mecca of Mormonism, and thence into Mexico near the bold peak of Popocatapetl, exhibiting the relative altitudes of the cities of Chihuahua, Durango, Zacatecas, and the Mexican capital. But the view does not stop here. This great line of relief penetrates through Central into South America, affording a glimpse of Mt. Chimborazo, in Ecuador, until recently supposed to be the highest peak of the Andean system; thence through Peru into the beating, heaving "Heart of the Andes," and Mt. Nevada de Sorata, the veritable apex of the great chain which, finally, passing through Chili and Patagonia, is lost in the south western seas.

The profile of the altitudes of the old world is shown from west to east. Beginning at Oporto, in Spain, it runs thence through France, the Swiss Alpine system, Hungary, Turkey, Asia Minor, Armenia, Persia, Afghanistan; and thence through the great Himalayan system of Central and Eastern Asia, in which is found Mt. Everest, the highest peak on the surface of the globe; and thence through China and Manchooria, terminating at the Sea of Japan.

From this brief description it will be seen that this map is most comprehensive and exhaustive in its presentation of the great laws of structure, with the multitudinous facts upon which they are based, and affording every phase of analogy and contrast, from the greatest altitude to the lowest depth, and from the immense land masses lying in dread repose to the great wide seas wherein are things creeping innumerable, and whose deep music is poetically conceived to constitute the bass in nature's eternal anthem. If

the study of Geography does not now assume its true rank as a part alike of popular and of liberal education, it will no longer be the fault of authors and publishers, but of parents and teachers on the one hand, and of pupils on the other. The science, the skill, the liberality, and the enterprise that can bring forth such works as this series comprises, are, one and all, entitled to a fitting reward. And they are sure to have it, both in the moral and material appreciation of the enlightened American people, and especially of the intelligent educators of the United States.

FIRST LESSONS IN ALGEBRA; being an easy Introduction to that Science. Designed for the use of Academies and Common Schools. By EBENEZER BAILEY, Principal of the Young Ladies' High School, Boston; Author of "Young Ladies' Class Book," etc. Revised Edition. Schermerhorn, Bancroft & Co., 130 Grand-street, N. Y., 25 North Fourth-street, Philadelphia.

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